

## SEQUENCE LISTING

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<150> JP 2004-074570

<151> 2004-03-16

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<170> PatentIn version 3.1

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Met Thr His Leu Gly Pro His Leu Asn Ile Val Asn Leu Leu Gly Ala	
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tgc acc aag tca ggc ccc att tac atc atc aca gag tat tgc ttc tat	2431
Cys Thr Lys Ser Gly Pro Ile Tyr Ile Ile Thr Glu Tyr Cys Phe Tyr	
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gga gat ttg gtc aac tat ttg cat aag aat agg gat agc ttc ctg agc	2479
Gly Asp Leu Val Asn Tyr Leu His Lys Asn Arg Asp Ser Phe Leu Ser	
680 685 690 695	
cac cac cca gag aag cca aag aaa gag ctg gat atc ttt gga ttg aac	2527
His His Pro Glu Lys Pro Lys Lys Glu Leu Asp Ile Phe Gly Leu Asn	
700 705 710	
cct gct gat gaa agc aca cgg agc tat gtt att tta tct ttt gaa aac	2575
Pro Ala Asp Glu Ser Thr Arg Ser Tyr Val Ile Leu Ser Phe Glu Asn	
715 720 725	
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Asn Gly Asp Tyr Met Asp Met Lys Gln Ala Asp Thr Thr Gln Tyr Val	
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ccc atg cta gaa agg aaa gag gtt tct aaa tat tcc gac atc cag aga	2671
Pro Met Leu Glu Arg Lys Glu Val Ser Lys Tyr Ser Asp Ile Gln Arg	
745 750 755	
tca ctc tat gat cgt cca gcc tca tat aag aag aaa tct atg tta gac	2719
Ser Leu Tyr Asp Arg Pro Ala Ser Tyr Lys Lys Lys Ser Met Leu Asp	
760 765 770 775	
tca gaa gtc aaa aac ctc ctt tca gat gat aac tca gaa ggc ctt act	2767
Ser Glu Val Lys Asn Leu Leu Ser Asp Asp Asn Ser Glu Gly Leu Thr	
780 785 790	
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Leu Leu Asp Leu Leu Ser Phe Thr Tyr Gln Val Ala Arg Gly Met Glu	
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Phe Leu Ala Ser Lys Asn Cys Val His Arg Asp Leu Ala Ala Arg Asn	
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gtc ctc ctg gca caa gga aaa att gtg aag atc tgt gac ttt ggc ctg	2911
Val Leu Leu Ala Gln Gly Lys Ile Val Lys Ile Cys Asp Phe Gly Leu	
825 830 835	
gcc aga gac atc atg cat gat tcg aac tat gtg tcg aaa ggc agt acc	2959
Ala Arg Asp Ile Met His Asp Ser Asn Tyr Val Ser Lys Gly Ser Thr	
840 845 850 855	
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Phe Leu Pro Val Lys Trp Met Ala Pro Glu Ser Ile Phe Asp Asn Leu	
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tac acc aca ctg agt gat gtc tgg tct tat ggc att ctg ctc tgg gag	3055
Tyr Thr Thr Leu Ser Asp Val Trp Ser Tyr Gly Ile Leu Leu Trp Glu	
875 880 885	
atc ttt tcc ctt ggt ggc acc cct tac ccc ggc atg atg gtg gat tct	3103
Ile Phe Ser Leu Gly Gly Thr Pro Tyr Pro Gly Met Met Val Asp Ser	
890 895 900	



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Thr Phe Tyr Asn Lys Ile Lys Ser Gly Tyr Arg Met Ala Lys Pro Asp	
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 cac gct acc agt gaa gtc tac gag atc atg gtg aaa tgc tgg aac agt	3199
His Ala Thr Ser Glu Val Tyr Glu Ile Met Val Lys Cys Trp Asn Ser	
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 gag ccg gag aag aga ccc tcc ttt tac cac ctg agt gag att gtg gag	3247
Glu Pro Glu Lys Arg Pro Ser Phe Tyr His Leu Ser Glu Ile Val Glu	
940 945 950	
 aat ctg ctg cct gga caa tat aaa aag agt tat gaa aaa att cac ctg	3295
Asn Leu Leu Pro Gly Gln Tyr Lys Lys Ser Tyr Glu Lys Ile His Leu	
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Asp Phe Leu Lys Ser Asp His Pro Ala Val Ala Arg Met Arg Val Asp	
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Ser Asp Asn Ala Tyr Ile Gly Val Thr Tyr Lys Asn Glu Glu Asp Lys	
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Leu Lys Asp Trp Glu Gly Gly Leu Asp Glu Gln Arg Leu Ser Ala	
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Asp Ser Gly Tyr Ile Ile Pro Leu Pro Asp Ile Asp Pro Val Pro	
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Ser Glu Glu Ser Ala Ile Glu Thr Gly Ser Ser Ser Ser Thr Phe	
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Ile Lys Arg Glu Asp Glu Thr Ile Glu Asp Ile Asp Met Met Asp	
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<212> PRT

<213> Homo sapiens

<400> 6

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Gly Leu Ser Leu Ile Leu Cys Gln Leu Ser Leu Pro Ser Ile Leu Pro  
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Asn Glu Asn Glu Lys Val Val Gln Leu Asn Ser Ser Phe Ser Leu Arg  
35 40 45

Cys Phe Gly Glu Ser Glu Val Ser Trp Gln Tyr Pro Met Ser Glu Glu  
50 55 60

Glu Ser Ser Asp Val Glu Ile Arg Asn Glu Glu Asn Asn Ser Gly Leu  
65 70 75 80

Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly  
85 90 95

Leu Tyr Thr Cys Tyr Tyr Asn His Thr Gln Thr Glu Glu Asn Glu Leu  
100 105 110

Glu Gly Arg His Ile Tyr Ile Tyr Val Pro Asp Pro Asp Val Ala Phe  
115 120 125

Val Pro Leu Gly Met Thr Asp Tyr Leu Val Ile Val Glu Asp Asp Asp  
130 135 140

Ser Ala Ile Ile Pro Cys Arg Thr Thr Asp Pro Glu Thr Pro Val Thr  
145 150 155 160

Leu His Asn Ser Glu Gly Val Val Pro Ala Ser Tyr Asp Ser Arg Gln  
165 170 175

Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr  
180 185 190

Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu  
195 200 205

Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val  
210 215 220

Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn  
225                      230                      235                      240

Glu Val Val Asp	Leu Gln Trp Thr Tyr	Pro Gly Glu Val	Lys Gly Lys
245	250	255	
Gly Ile Thr Met	Leu Glu Glu Ile Lys Val	Pro Ser Ile Lys	Leu Val
260	265	270	
Tyr Thr Leu Thr Val	Pro Glu Ala Thr Val	Lys Asp Ser Gly	Asp Tyr
275	280	285	
Glu Cys Ala Ala Arg	Gln Ala Thr Arg Glu Val	Lys Glu Met Lys	Lys
290	295	300	
Val Thr Ile Ser Val	His Glu Lys Gly Phe Ile Glu	Ile Lys Pro Thr	
305	310	315	320
Phe Ser Gln Leu Glu	Ala Val Asn Leu His Glu Val	Lys His Phe Val	
325	330	335	
Val Glu Val Arg Ala	Tyr Pro Pro Pro Arg Ile Ser	Trp Leu Lys Asn	
340	345	350	
Asn Leu Thr Leu Ile	Glu Asn Leu Thr Glu Ile Thr	Thr Asp Val Glu	
355	360	365	
Lys Ile Gln Glu Ile	Arg Tyr Arg Ser Lys Leu Lys	Leu Ile Arg Ala	
370	375	380	
Lys Glu Glu Asp Ser	Gly His Tyr Thr Ile Val Ala	Gln Asn Glu Asp	
385	390	395	400
Ala Val Lys Ser Tyr	Thr Phe Glu Leu Leu Thr Gln	Val Pro Ser Ser	
405	410	415	
Ile Leu Asp Leu Val	Asp Asp His His Gly Ser Thr	Gly Gly Gln Thr	
420	425	430	
Val Arg Cys Thr Ala	Glu Gly Thr Pro Leu Pro Asp	Ile Glu Trp Met	
435	440	445	
Ile Cys Lys Asp Ile	Lys Lys Cys Asn Asn Glu Thr	Ser Trp Thr Ile	

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Leu Ala Asn Asn Val Ser Asn Ile Ile Thr Glu Ile His Ser Arg Asp		
465	470	475 480
Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr		
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Ile Ala Val Arg Cys Leu Ala Lys Asn Leu Leu Gly Ala Glu Asn Arg		
500	505	510
Glu Leu Lys Leu Val Ala Pro Thr Leu Arg Ser Glu Leu Thr Val Ala		
515	520	525
Ala Ala Val Leu Val Leu Leu Val Ile Val Ile Ile Ser Leu Ile Val		
530	535	540
Leu Val Val Ile Trp Lys Gln Lys Pro Arg Tyr Glu Ile Arg Trp Arg		
545	550	555 560
Val Ile Glu Ser Ile Ser Pro Asp Gly His Glu Tyr Ile Tyr Val Asp		
565	570	575
Pro Met Gln Leu Pro Tyr Asp Ser Arg Trp Glu Phe Pro Arg Asp Gly		
580	585	590
Leu Val Leu Gly Arg Val Leu Gly Ser Gly Ala Phe Gly Lys Val Val		
595	600	605
Glu Gly Thr Ala Tyr Gly Leu Ser Arg Ser Gln Pro Val Met Lys Val		
610	615	620
Ala Val Lys Met Leu Lys Pro Thr Ala Arg Ser Ser Glu Lys Gln Ala		
625	630	635 640
Leu Met Ser Glu Leu Lys Ile Met Thr His Leu Gly Pro His Leu Asn		
645	650	655
Ile Val Asn Leu Leu Gly Ala Cys Thr Lys Ser Gly Pro Ile Tyr Ile		
660	665	670

Ile Thr Glu Tyr Cys Phe Tyr Gly Asp Leu Val Asn Tyr Leu His Lys  
 675 680 685

Asn Arg Asp Ser Phe Leu Ser His His Pro Glu Lys Pro Lys Lys Glu  
 690 695 700

Leu Asp Ile Phe Gly Leu Asn Pro Ala Asp Glu Ser Thr Arg Ser Tyr  
 705 710 715 720

Val Ile Leu Ser Phe Glu Asn Asn Gly Asp Tyr Met Asp Met Lys Gln  
 725 730 735

Ala Asp Thr Thr Gln Tyr Val Pro Met Leu Glu Arg Lys Glu Val Ser  
 740 745 750

Lys Tyr Ser Asp Ile Gln Arg Ser Leu Tyr Asp Arg Pro Ala Ser Tyr  
 755 760 765

Lys Lys Lys Ser Met Leu Asp Ser Glu Val Lys Asn Leu Leu Ser Asp  
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Asp Asn Ser Glu Gly Leu Thr Leu Leu Asp Leu Leu Ser Phe Thr Tyr  
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Gln Val Ala Arg Gly Met Glu Phe Leu Ala Ser Lys Asn Cys Val His  
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Arg Asp Leu Ala Ala Arg Asn Val Leu Leu Ala Gln Gly Lys Ile Val  
 820 825 830

Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Met His Asp Ser Asn  
 835 840 845

Tyr Val Ser Lys Gly Ser Thr Phe Leu Pro Val Lys Trp Met Ala Pro  
 850 855 860

Glu Ser Ile Phe Asp Asn Leu Tyr Thr Thr Leu Ser Asp Val Trp Ser  
 865 870 875 880



Tyr Gly Ile Leu Leu Trp Glu Ile Phe Ser Leu Gly Gly Thr Pro Tyr  
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Pro Gly Met Met Val Asp Ser Thr Phe Tyr Asn Lys Ile Lys Ser Gly  
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Tyr Arg Met Ala Lys Pro Asp His Ala Thr Ser Glu Val Tyr Glu Ile  
                             915                            920                            925

Met Val Lys Cys Trp Asn Ser Glu Pro Glu Lys Arg Pro Ser Phe Tyr  
                             930                            935                            940

His Leu Ser Glu Ile Val Glu Asn Leu Leu Pro Gly Gln Tyr Lys Lys  
                             945                            950                            955                            960

Ser Tyr Glu Lys Ile His Leu Asp Phe Leu Lys Ser Asp His Pro Ala  
                             965                            970                            975

Val Ala Arg Met Arg Val Asp Ser Asp Asn Ala Tyr Ile Gly Val Thr  
                             980                            985                            990

Tyr Lys Asn Glu Glu Asp Lys Leu Lys Asp Trp Glu Gly Gly Leu Asp  
                             995                            1000                            1005

Glu Gln Arg Leu Ser Ala Asp Ser Gly Tyr Ile Ile Pro Leu Pro  
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Asp Ile Asp Pro Val Pro Glu Glu Glu Asp Leu Gly Lys Arg Asn  
                             1025                            1030                            1035

Arg His Ser Ser Gln Thr Ser Glu Glu Ser Ala Ile Glu Thr Gly  
                             1040                            1045                            1050

Ser Ser Ser Ser Thr Phe Ile Lys Arg Glu Asp Glu Thr Ile Glu  
                             1055                            1060                            1065

Asp Ile Asp Met Met Asp Asp Ile Gly Ile Asp Ser Ser Asp Leu  
                             1070                            1075                            1080

Val Glu Asp Ser Phe Leu

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Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly  
85 90 95

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Leu Tyr Thr Cys Tyr Tyr Asn His Thr Gln Thr Glu Glu Asn Glu Leu	
100 105 110	
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Glu Gly Arg His Ile Tyr Ile Tyr Val Pro Asp Pro Asp Val Ala Phe	
115 120 125	
 gta cct cta gga atg acg gat tat tta gtc atc gtg gag gat gat gat	432
Val Pro Leu Gly Met Thr Asp Tyr Leu Val Ile Val Glu Asp Asp Asp	
130 135 140	
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Ser Ala Ile Ile Pro Cys Arg Thr Thr Asp Pro Glu Thr Pro Val Thr	
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Leu His Asn Ser Glu Gly Val Val Pro Ala Ser Tyr Asp Ser Arg Gln	
165 170 175	
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Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr	
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Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu	
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Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val	
210 215 220	
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Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn	
225 230 235 240	
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Glu Val Val Asp Leu Gln Trp Thr Tyr Pro Gly Glu Val Lys Gly Lys	
245 250 255	

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Gly Ile Thr Met Leu Glu Glu Ile Lys Val Pro Ser Ile Lys Leu Val	
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Tyr Thr Leu Thr Val Pro Glu Ala Thr Val Lys Asp Ser Gly Asp Tyr	
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gaa tgt gct gcc cgc cag gct acc agg gag gtc aaa gaa atg aag aaa	912
Glu Cys Ala Ala Arg Gln Ala Thr Arg Glu Val Lys Glu Met Lys Lys	
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gtc act att tct gtc cat gag aaa ggt ttc att gaa atc aaa ccc acc	960
Val Thr Ile Ser Val His Glu Lys Gly Phe Ile Glu Ile Lys Pro Thr	
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Phe Ser Gln Leu Glu Ala Val Asn Leu His Glu Val Lys His Phe Val	
325 330 335	
gta gag gtg cgg gcc tac cca cct ccc agg ata tcc tgg ctg aaa aac	1056
Val Glu Val Arg Ala Tyr Pro Pro Pro Arg Ile Ser Trp Leu Lys Asn	
340 345 350	
aat ctg act ctg att gaa aat ctc act gag atc acc act gat gtg gaa	1104
Asn Leu Thr Leu Ile Glu Asn Leu Thr Glu Ile Thr Thr Asp Val Glu	
355 360 365	
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Lys Ile Gln Glu Ile Arg Tyr Arg Ser Lys Leu Lys Leu Ile Arg Ala	
370 375 380	
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Lys Glu Glu Asp Ser Gly His Tyr Thr Ile Val Ala Gln Asn Glu Asp	
385 390 395 400	
gct gtg aag agc tat act ttt gaa ctg tta act caa gtt cct tca tcc	1248
Ala Val Lys Ser Tyr Thr Phe Glu Leu Leu Thr Gln Val Pro Ser Ser	
405 410 415	

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Ile Leu Asp Leu Val Asp Asp His His Gly Ser Thr Gly Gly Gln Thr	
420 425 430	
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Val Arg Cys Thr Ala Glu Gly Thr Pro Leu Pro Asp Ile Glu Trp Met	
435 440 445	
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Ile Cys Lys Asp Ile Lys Lys Cys Asn Asn Glu Thr Ser Trp Thr Ile	
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Leu Ala Asn Asn Val Ser Asn Ile Ile Thr Glu Ile His Ser Arg Asp	
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Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr	
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Ile Ala Val Arg Cys Leu Ala Lys Asn Leu Leu Gly Ala Glu Asn Arg	
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gag ctg aag ctg gtg gct ccc acc ctg cgt tct gaa gac tac aag gac	1584
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Asn Glu Asn Glu Lys Val Val Gln Leu Asn Ser Ser Phe Ser Leu Arg  
35 40 45

Cys Phe Gly Glu Ser Glu Val Ser Trp Gln Tyr Pro Met Ser Glu Glu  
50 55 60

Glu Ser Ser Asp Val Glu Ile Arg Asn Glu Glu Asn Asn Ser Gly Leu  
65 70 75 80

Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly  
85 90 95

Leu Tyr Thr Cys Tyr Tyr Asn His Thr Gln Thr Glu Glu Asn Glu Leu  
100 105 110

Glu Gly Arg His Ile Tyr Ile Tyr Val Pro Asp Pro Asp Val Ala Phe  
115 120 125

Val Pro Leu Gly Met Thr Asp Tyr Leu Val Ile Val Glu Asp Asp Asp  
130 135 140

Ser Ala Ile Ile Pro Cys Arg Thr Thr Asp Pro Glu Thr Pro Val Thr  
145 150 155 160

Leu His Asn Ser Glu Gly Val Val Pro Ala Ser Tyr Asp Ser Arg Gln  
165 170 175

Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr  
180 185 190

Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu

195	200	205
Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val		
210	215	220
Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn		
225	230	235 240
Glu Val Val Asp Leu Gln Trp Thr Tyr Pro Gly Glu Val Lys Gly Lys		
	245	250 255
Gly Ile Thr Met Leu Glu Glu Ile Lys Val Pro Ser Ile Lys Leu Val		
	260	265 270
Tyr Thr Leu Thr Val Pro Glu Ala Thr Val Lys Asp Ser Gly Asp Tyr		
	275	280 285
Glu Cys Ala Ala Arg Gln Ala Thr Arg Glu Val Lys Glu Met Lys Lys		
	290	295 300
Val Thr Ile Ser Val His Glu Lys Gly Phe Ile Glu Ile Lys Pro Thr		
305	310	315 320
Phe Ser Gln Leu Glu Ala Val Asn Leu His Glu Val Lys His Phe Val		
	325	330 335
Val Glu Val Arg Ala Tyr Pro Pro Pro Arg Ile Ser Trp Leu Lys Asn		
	340	345 350
Asn Leu Thr Leu Ile Glu Asn Leu Thr Glu Ile Thr Thr Asp Val Glu		
	355	360 365
Lys Ile Gln Glu Ile Arg Tyr Arg Ser Lys Leu Lys Leu Ile Arg Ala		
	370	375 380
Lys Glu Glu Asp Ser Gly His Tyr Thr Ile Val Ala Gln Asn Glu Asp		
385	390	395 400
Ala Val Lys Ser Tyr Thr Phe Glu Leu Leu Thr Gln Val Pro Ser Ser		
	405	410 415

Ile Leu Asp Leu Val Asp Asp His His Gly Ser Thr Gly Gly Gln Thr  
 420 425 430

Val Arg Cys Thr Ala Glu Gly Thr Pro Leu Pro Asp Ile Glu Trp Met  
 435 440 445

Ile Cys Lys Asp Ile Lys Lys Cys Asn Asn Glu Thr Ser Trp Thr Ile  
 450 455 460

Leu Ala Asn Asn Val Ser Asn Ile Ile Thr Glu Ile His Ser Arg Asp  
 465 470 475 480

Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr  
 485 490 495

Ile Ala Val Arg Cys Leu Ala Lys Asn Leu Leu Gly Ala Glu Asn Arg  
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Asp Asp Asp Lys  
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